April 13, 2017

(Date of Event Which Requires Filing of this Statement)

Check	the	folic	wing	box	to	designate	the	rule	pursuant to	which	the.	Schedule	is	filed:
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" Rule 13d-1(b)

x Rule 13d-1(c)

" Rule 13d-1(d)

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 03823U102

Names of Reporting Persons
I.R.S. Identification Nos. of above persons (entities only)
1. D. E. Shaw & Co., L.P.
13-3695715
Check the Appropriate Box if 2. a Member of a Group (See Instructions) (a)[] (b) []
SEC Use Only 3.
Citizenship or Place of Organization
4. Delaware
Number of
Shares
Sole Voting Power Beneficially
Owned ₅ .
Each -0-
Reporting
Person With 6.Shared Voting Power

949,364

Sole Dispositive Power

7.-0-

Shared Dispositive Power

8.949,364

Aggregate Amount Beneficially Owned by Each Reporting Person

9. 949,364

Check if the Aggregate Amount in Row (9) Excludes 10. Certain Shares (See Instructions) []

Percent of Class Represented by Amount in Row (9)

11. 5.1%

Type of Reporting Person (See 12.

IA, PN

CUSIP No. 03823U102

Names of Reporting Persons

1.	I.R.S. Identification Nos. of above persons (entities only)
	David E. Shaw
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a)[] (b)
3.	SEC Use Only
	Citizenship or Place of Organization
4.	United States
Nu of	mber
Sha	ares
Ber	Sole Voting Power neficially
Ow by	ned ₅ .
Eac	ch -0-
Rep	porting
Per Wi	rson th 6.Shared Voting Power
	949,364
	ノサノ・スリサ

Sole Dispositive Power

7.-0-

Shared Dispositive Power

8.949,364

Aggregate Amount Beneficially Owned by Each Reporting Person

9. 949,364

Check if the Aggregate Amount in Row (9) Excludes 10. Certain Shares (See Instructions) []

Percent of Class Represented by Amount in Row (9)

11. 5.1%

Type of Reporting Person (See 12.

IN

Item 1.

(a) Name of Issuer

Applied Optoelectronics, Inc.

(b) Address of Issuer's Principal Executive Offices

13139 Jess Pirtle Blvd.

Sugar Land, TX 77478

Item 2.

(a) Name of Person Filing

D. E. Shaw & Co., L.P.

David E. Shaw

(b) Address of Principal Business Office or, if none, Residence

The business address for each reporting person is:

1166 Avenue of the Americas, 9th Floor

New York, NY 10036

(c) Citizenship

D. E. Shaw & Co., L.P. is a limited partnership organized under the laws of the state of Delaware.

David E. Shaw is a citizen of the United States of America.

(d) Title of Class of Securities

Common Stock, Par value \$0.001

(e) CUSIP Number

03823U102

If this statement is filed pursuant to Rule 13d-1(b) or 13d-2(b) or (c), check whether the person filing is a:

3.

Not Applicable

Ownership Item

4.

As of April 13, 2017:

(a) Amount beneficially owned:

949,364 shares

D. E. Shaw This is composed of (i) 580,569 shares in the name of D. E. Shaw Valence Portfolios, L.L.C., (ii) & Co., L.P.: 20,000 shares that D. E. Shaw Valence Portfolios, L.L.C. has the right to acquire through the exercise of listed call options, (iii) 342,867 shares in the name of D. E. Shaw Oculus Portfolios, L.L.C., (iv) 1,019 shares in the name of D. E. Shaw Asymptote Portfolios, L.L.C., (v) 100 shares in the name of D. E. Shaw Heliant Capital, L.L.C., and (vi) 4,809 shares under the management of D. E. Shaw Investment Management, L.L.C.

949,364 shares

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David E. Shaw:

(b) Percent of class:

D. E. Shaw & Co., L.P.: 5.1% David E. Shaw: 5.1%

(c) Number of shares to which the person has:

(i) Sole power to vote or to direct the vote:

D. E. Shaw & Co., L.P.: -0- shares David E. Shaw: -0- shares

(ii) Shared power to vote or to direct the vote:

D. E. Shaw & Co., L.P.: 949,364 shares David E. Shaw: 949,364 shares

(iii) Sole power to dispose or to direct the disposition of:

D. E. Shaw & Co., L.P.: -0- shares David E. Shaw: -0- shares

(iv) Shared power to dispose or to direct the disposition of:

D. E. Shaw & Co., L.P.: 949,364 shares David E. Shaw: 949,364 shares

David E. Shaw does not own any shares directly. By virtue of David E. Shaw's position as President and sole shareholder of D. E. Shaw & Co., Inc., which is the general partner of D. E. Shaw & Co., L.P., which in turn is the manager and investment adviser of D. E. Shaw Valence Portfolios, L.L.C., the investment adviser of D. E. Shaw Oculus Portfolios, L.L.C., and the managing member of (i) D. E. Shaw Investment Management, L.L.C., (ii) D. E. Shaw Adviser, L.L.C., which in turn is the investment adviser of D. E. Shaw Asymptote Portfolios, L.L.C., and (iii) D. E. Shaw Heliant Adviser, L.L.C., which in turn is the investment adviser of D. E. Shaw Heliant Capital, L.L.C., and by virtue of David E. Shaw's position as President and sole shareholder of D. E. Shaw & Co. II, Inc., which is the managing member of D. E. Shaw & Co., L.L.C., which in turn is the manager of D. E. Shaw Oculus Portfolios, L.L.C. and the managing member of (i) D. E. Shaw Manager, L.L.C., which in turn is the manager of D. E. Shaw Asymptote Portfolios, L.L.C., and (ii) D. E. Shaw Heliant Manager, L.L.C., which in turn is the manager of D. E. Shaw Heliant Capital, L.L.C., David E. Shaw may be deemed to have the shared power to vote or direct the vote of, and the shared power to dispose or direct the disposition of, the 949,364 shares as described above constituting 5.1% of the outstanding shares and, therefore, David E. Shaw may be deemed to be the beneficial owner of such shares. David E. Shaw disclaims beneficial ownership of such 949,364 shares.

Item 5.Ownership of Five Percent or Less of a Class

Not Applicable

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Not Applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person.

Not Applicable

Item 8.Identification and Classification of Members of the Group

Not Applicable

Item 9. Notice of Dissolution of Group

Not Applicable

Item Certification

10.

By signing below, each of D. E. Shaw & Co., L.P. and David E. Shaw certify that, to the best of such reporting person's knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having such purposes or effect.

SIGNATURE

After reasonable inquiry and to the best of their knowledge and belief, the undersigned certify that the information set forth in this statement is true, complete and correct. A Power of Attorney, dated March 1, 2017, granted by David E. Shaw in favor of Nathan Thomas, is attached hereto.

Dated: April 24, 2017

D. E. Shaw & Co., L.P.

By: <u>/s/ Nathan Thomas</u>
Nathan Thomas
Chief Compliance Officer

David E. Shaw

By: <u>/s/ Nathan Thomas</u>
Nathan Thomas
Attorney-in-Fact for David E. Shaw